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AUTHOR Bempechat, Janine; Wells, Amy Stuart
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ABSTRACT

This document comprises reviews of recent studies on the influence of classroom environment; curriculum tracking; child, parent and teacher beliefs; and middle school environment on the achievement of high risk students. Chapter 1, "Competitive, Cooperative, and Individualistic Structures of Classroom Learning," reports on the negative effect of interpersonal competition in learning environments and cites movement towards cooperative learning strategies. Chapter 2, "Determinants and Outcomes of Curriculum Tracking in Public and Private Schools," reports on how tracking favors advantaged and white students but locks lower track students into an unchallenging curriculum that limits later academic pursuits and produces deleterious psychological effects such as decreased satisfaction with school, lower self-esteem, and lower educational aspirations. Chapter 3, "The Role of Child, Parent, and Teacher Beliefs in Motivational Factors in Children's Learning," reports that children whose families and teachers strongly value effort and personal responsibility are more apt to develop the discipline needed to persevere in the face of educational difficulties, while students whose peers disparage academic achievement have more obstacles to overcome in the effort to succeed in school. Chapter 4, "Middle School Education as the Critical Link in Dropout Prevention," cites studies demonstrating the importance of a nurturing, supportive middle school environment to dropout prevention. Each chapter is accompanied by a list of references. (FMW)

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TRENDS AND ISSUES IN URBAN AND MINORITY EDUCATION, 1989

PROMOTING THE ACHIEVEMENT OF AT-RISK STUDENTS

Janine Bempechat
Harvard University
and
Amy Stuart Wells
Teachers College, Columbia University

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COMPETITIVE, COOPERATIVE, AND INDIVIDUALISTIC STRUCTURES OF CLASSROOM LEARNING

Janine Bempechat
Harvard University

INTRODUCTION

Individual differences in children's achievement cognitions (e.g., attributions forsuccess and failure, belief in ability as static or malleable) have been shown to influence their behavior in novel achievement situations, including their choice of challenging or easy tasks and their tendency to succumb to learned helplessness (Dweck & Bempechat, 1983; Nicholls, 1989). Current research efforts are centered on examining the ways in which children's cognitions are influenced. Not surprisingly, much research has focused on classroom variables, specifically, the structure of classroom learning. In recent years, educational researchers, parents and some educators have become increasingly concerned about the negative effects of competition in the classroom. Thus, the available research consists of comparisons in children's achievement cognitions and behaviors in competitive, cooperative and individualistic learning situations. The body of evidence converges to show that children's attitudes towards learning and actual achievement outcomes are positively influenced under cooperative situations, but negatively influenced under competitive, and to some degree, individualistic situations.

Our nation's classrooms are primarily competitively or individualistically oriented (see Eccles, Midgley, & Adler, 1984; Johnson & Johnson, 1985). In competitive learning, students vie for a limited number of rewards, be they intangible, such as the teacher's positive attention or high grades, or tangible, such as stickers or other prizes. In such an environment, students' focus tends to be turned to the outcomes of learning (i.e., grades) rather than the process of learning (Nicholls, 1989), and not surprisingly, social comparison is made very salient (Ames, 1984). In contrast, individualistic learning is characterized by the independence of goals among individuals. Students tend to be more focused on mastery through effort, rather than attainment of a normative standard. Finally, in cooperative learning, goals are shared by a group of students. In accomplishing them, the performance of the group, rather than that of any one individual student, is made salient. Cooperative learning tends to elicit norms for helping and negative sanctions for not helping (Ames & Ames, 1984).

Influence of Reward Factor. Much of the research in this area has been experimental in nature. Typically, this involves exposing children to differential conditions of reward and monitoring the effects of each on children's achievement cognitions, such as attributions for success and failure and affect. Ames, Ames, & Felker (1977) compared the effects of competitive and non-competitive reward structure on their own and other students' success and failure on an achievement task. They tested fifth grade boys in pairs, in which one succeeded and one failed. Under the competitive condition, the boys were told that the one who solved the most puzzles would get a prize. Under the non-competitive condition, both were told that they would receive prizes for their participation. The dependent measures were attribution for success and failure (to ability, effort, task difficulty and luck), reward for and satisfaction with performance. Each boy rated himself and his peer on each measure. Results showed that successful boys in the competitive condition rated themselves as being more deserving of reward and more satisfied than the unsuccessful boys. In contrast, the latter rated themselves as less able and less deserving of reward, and experienced more negative affect than unsuccessful boys in the non-competitive condition. Under non-competitive conditions, successful boys did not feel they were more deserving of reward than the unsuccessful boys. Interestingly, under competitive conditions, satisfaction with performance was correlated with ability and luck attributions, while under non-competitive conditions, satisfaction was correlated with effort attributions.

This study shows that the effects of success and failure depend very much on reward contingencies. The affective significance of one's own as well as another's performance tends to increase in the competitive situation. While the competitive situation seemed to foster "ego-enhancing" motives for success, the non-competitive situation seemed to foster self-punitive evaluations for failure (inasmuch as the children felt they deserved less reward for their performance) and negative affect.

Influence of Classroom Structure. Ames and Felker (1979) examined children's attributions and evaluations in competitive, cooperative and individualistic reward structures. Further, they examined the effects of individual as well as group outcome. Children in first through fifth grades were read a story about two children solving puzzles under competitive (whoever solved more won the prize), cooperative (both would receive a prize if together they solved seven puzzles), or individualistic (each would receive a prize for solving five puzzles) conditions. Following Ames et

al. (1977), they measured attributions for success and failure, degree of reward, and satisfaction with performance.

Several interesting findings emerged. Competition tended to increase the value placed on achievement outcomes. Positive outcomes that were fostered by cooperation appeared to result primarily from groups that were successful. Relative to success in the cooperative group, success in the competitive group fostered higher ability attributions, greater reward giving and was associated with more positive affect. However, loss in the competitive situation was more harshly judged relative to success in the cooperative situation. That is, success of the cooperative group enhanced the perception of the low performer. Interestingly, though, the evaluations of both the successful and unsuccessful children under cooperative failure were more negative than in any other group. Unsuccessful children in this condition were rated more negatively than unsuccessful children in other conditions.

Thus, competition tended to accentuate whereas cooperation tended to minimize the perception of individual differences. Judgements of the successful versus the unsuccessful child's ability, deservedness of reward and satisfaction with performance were more discrepant in competitive than in cooperative situations. The authors caution that the general value of cooperative groups is questionable, given that low performers tend to be rejected when the group fails.

Achievement Behavior

Competitive and Individualistic Structures. More recently, Ames (1984) examined the degree to which competitive and individualistic structures foster learned helplessness over mastery-orientation. Fifth and sixth graders either worked individually or competitively in pairs. High and low performance was varied. Children in the competitive situation focused more on ability attributions than did children in the individual situation. For the former, the emphasis appeared to be on whether they were smart enough to complete the task. In contrast, children in the individualistic situation focused on the value of their efforts, but only after a high performance. These children displayed more adaptive cognitions, such as self-instructions and effort attributions. Thus, they appeared to be guided by concerns over how they were going to accomplish the task, rather than over whether or not they had the ability to do so.

Cooperative Learning. In a recent review, Johnson and Johnson (1985) summarized evidence showing that, relative to competitive and individualistic

learning situations, cooperative learning situations foster intrinsic motivation (the desire to learn for its own sake), greater intellectual curiosity, a desire to seek out more information on the topic at hand, positive attitudes towards learning, high expectations for success, task persistence, and higher achievement outcomes. In contrast, competitive and individualistic learning situations foster extrinsic motivation, low expectations for success (with the exception of high ability students), low intellectual curiosity, lack of interest in and commitment to learning, and low task persistence.

In sum, it appears that competitive learning structures increase the use of social comparison and focus students' attention on normative assessments of ability and the outcomes of learning. Adaptive effort related cognitions tend to be inhibited and students tend to view effort itself as indicative of lack of ability (Ames & Ames, 1984). This type of learning fosters an "ego-involved" approach to education, in which concerns about ability (i.e., looking smart or avoiding looking "dumb") become paramount (Nicholls, 1989). In contrast, cooperative settings tend to focus students' attentions on the process of learning and on how the group's resources can be combined and responsibilities delegated so that a task is accomplished. In these settings, effort is valued and a "task-involved" approach (i.e., mastery through effort) to learning is fostered. As Nicholls has noted, task and not ego involvement most fosters intellectual development and the attainment of intellectual potential (Nicholls, 1989).

School Organization. In addition to actual classroom practices, researchers have noted that age-related changes in schooling also serve to heighten social comparison and ego-involvement. As children progress from elementary through the high school years, schools become larger and more impersonal (Eccles et al., 1984). Children go from environments in which they have a warm relationship with one teacher to settings in which they have multiple teachers and less personal contact. Schooling becomes increasingly competitive, with the introduction of ability grouping and the greater reliance on standardized tests. In this environment, one's relative rankings in class become very salient.

Achievement Outcomes

Despite what appear to be the positive benefits of cooperative learning on achievement motivation, Slavin (1988a: 1988b) has found that all kinds of cooperative learning are not uniformly effective in fostering academic achievement. In a recent meta-analysis of 51 studies of cooperative learning in classrooms, he

demonstrated that it has the most beneficial effects on learning under two conditions: when members of the group are working towards a common goal, and when each individual is accountable for his or her performance (Slavin, 1988c). Programs that adhered to these conditions showed an effect size of +.30, while those that adhered to neither showed an effect size of +.05.

Slavin notes that when a group is working towards a common goal, each member has something to gain by each other member's efforts. Individual accountability may foster responsibility and encourage each member to do his or her share of the work. Thus, the evidence suggests that, without careful attention to the organization of group learning, the instructional benefits of cooperative learning may not be realized.

Conclusions

Despite what appear to be the positive benefits of cooperative environments on learning and motivation, estimates are that cooperative learning occurs about 7-20 percent of the time in U.S. schools (Johnson, 1976). Increasingly, researchers are calling for a reassessment of our schools' reliance on competition and a movement towards cooperative learning (Carnegie Council on Adolescent Development, 1989; Nicholls, 1989). Researchers have established that interpersonal competition, in fostering ego-involvement, orients students towards displaying their superiority over others (Nicholls, 1989). Nicholls has recently argued that, in so doing, competitive and other teaching practices (i.e., grading) decrease motivation and thus increase inequality in education. According to Nicholls, competition can "increase our preoccupation with how our ability compares with that of our peers and thereby compound inequality of motivation and diminish the quality of learning and accomplishment. Competition cannot be fair if competing with others itself produces inequalities in the motivation necessary to develop skills" (Nicholls, 1989, p.158).

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DETERMINANTS AND OUTCOMES OF CURRICULUM TRACKING IN PUBLIC AND PRIVATE SCHOOLS

Janine Bempechat
Harvard University

INTRODUCTION

Curriculum tracking is a rather commonplace practice in our nation's public and private high schools. At the elementary level, it is referred to as ability grouping. Over the past 15 years, tracking has come under increasing scrutiny as educational psychologists and sociologists, along with some parents, have questioned the value of a policy that may benefit some students at the educational expense of many others. Below, the reasons why tracking has become so favored by teachers and educational administrators are explored. Recent research on factors that determine track placement, and on the educational and psychological outcomes of tracking are examined.

Oakes (1985) recently summarized the assumptions that favor tracking. Among these is the belief that students learn better when grouped with peers of similar ability. A corollary view is that bright students will be held back if grouped with slower students, and that any learning problems that slower students have can be better addressed in a like-peer group. There is also the view that the self-esteem of slower students needs to be protected so that they do not suffer from negative comparisons in a heterogeneous classroom. However, as discussed later on, a considerable body of research has called these assumptions into question.

Tracking is based on a set of psychological assumptions deeply imbedded in our culture. We are a culture that believes very strongly in the concept of innate ability. Although we agree that education functions to equalize individuals and give all members of society a chance to better themselves, we also tend to believe that some individuals are born "smarter" than others. We view intelligence as limited (each person is endowed with a certain amount of intelligence) and limiting (each person's accomplishments are determined by the limits of his or her ability). (See Dweck & Bempechat, 1983, for a discussion of individual differences in conceptions of ability.) In contrast, Asian culture does not accept or really understand the notion of native ability (see White & LeVine, 1986). In Japan, for example, there is a belief in universal equality of moral character and intellectual ability at birth. Any differences between children are seen as externally imposed; the possibility for change always exists. Therefore, the role of effort is paramount, and success and failure are entirely within the child's control (see Kojima, 1986, and Yamamura,

1986, for a further discussion of this issue). Given these culturally held beliefs, it is not surprising to learn that tracking and ability grouping do not exist in Japan.

The Basis for Current Research

Much of the respected current research on tracking has been conducted by educational sociologists. These researchers often make use of existing large data sets, such as the follow-up data from the High School and Beyond (HSB) study or the Study of Academic Prediction and Growth, conducted by the Educational Testing Service from 1961-1969. The primary advantage of such data sets is that the studies are longitudinal and the subject pool sufficiently large (over 10,000 children) to allow for sophisticated structural equation modelling. Typically, researchers build and test predictive models of the determinants and effects of tracking, using background variables such as sex, socioeconomic status (SES), mother and father education and occupation, number of siblings, friends' educational expectations, educational goal orientation and academic self-concept. Predictor variables often include grade point average, class rank, and plans to attend college.

The Determinants of Tracking

While some conflicting results exist, the general consensus is that a child's placement in a given track is largely determined by SES. Poor (and this often implies minority) children are disproportionately represented in the lower tracks (Alexander & McDill, 1976; Oakes, 1985). For example, using data from the first follow-up of the HSB study, Vanfossen, Jones, and Spade (1982) found that SES had an effect on track placement independent of its influence on academic achievement. They showed that students in the top SES quartile had a 53 percent chance of being placed in an academic track, while those in the bottom SES quartile had a 19 percent chance of being similarly placed. At the other end of the spectrum, students in the top SES quartile had a 10 percent chance of being placed in the vocational track, while those in the bottom SES quartile had a 30% chance of being so placed.

In contrast to the majority of findings, Alexander and Cook (1982) found no evidence of SES or race bias in track placement. Using data from the Study of Academic Prediction and Growth, these researchers found instead that students' track placement was determined by their planning to enroll in the academic track, wanting to attend college, and having peers who intended to do so. It has been suggested that the subject pool used by Alexander and Cook may have been overrepresented

by high SES students or students from schools with a greater emphasis on academics (see Vanfossen, et al., 1982).

Influences and Consequences of Tracking

Ideally, tracks are supposed to represent different routes or pathways to the same outcome. In fact, however, they are different routes to very different points. Research to date has shown that tracking children results in differential achievement outcomes and psychological effects, and that students experience qualitatively different academic and educational experiences in different tracks.

Academic Outcomes. A rather robust finding concerns academic outcomes. Children placed in academic/college tracks display higher academic achievement, as measured by such indices as SAT verbal and math scores, achievement tests and senior year GPA (Alexander & McDill, 1976; Gamoran, 1987; Oakes, 1985; Schafer & Olexa, 1971; Vanfossen et al., 1982). For example, Gamoran (1987) argues that placement in an academic track gives students greater access to a curriculum of study that produces higher achievement. In an interesting interpretation of findings, Alexander and Cook (1982) showed that this relationship was due not so much to the influence of tracking, but rather to experiences and resources available to students prior to high school, such as earlier patterns of coursework and course outcomes. They argue that experiences in early schooling may be more important for later academic achievement than tracking itself, and suggest that "track placements seem to acknowledge and carry along differences in achievement trajectories set in motion years earlier" (p. 637). Of course, it could be that different achievement trajectories may be set off by early experiences in ability grouped classrooms.

Academic Experiences. Other research findings suggest that children in different tracks are exposed to qualitatively different academic experiences, with high tracked students being challenged to acquire and develop higher order cognitive skills and low tracked students being taught the basics needed for survival after graduation (Alexander & McDill, 1976; Oakes, 1985). For example, in her study of 25 junior and senior high schools, Oakes (1985) found that relative to low tracked students, high tracked students in English were exposed to higher level knowledge, were expected to do much writing and library research, and were encouraged to develop critical thinking, problem solving, and evaluation skills. In contrast, low tracked students were exposed to fewer and much less intellectually challenging literary novels. Learning at this level involved simple memory and comprehension tasks.

Student and Teacher Attitudes. This differential policy was evident in students' beliefs about what they were learning, and in teachers' goals for their teaching. These were very congruent. When asked what critical things they wanted their students to learn, teachers of high tracked students stressed sophisticated cognitive skills, such as problem solving and critical thinking. In contrast, teachers of low tracked students stressed simple practical "life training skills," such as filling out job applications and getting along with others. As Oakes and others have argued, students in lower tracks are not being exposed to knowledge that can help them move up the tracking ladder.

Students in high tracked classes believed that they were learning higher order thinking and reasoning skills, whereas those in lower tracks believed they were learning lower order skills (i.e., how to write a check) and the value of conformity (i.e., manners, behavior control).

Further, how does tracking affect students' self-esteem, academic self-concept, and educational aspirations? The evidence suggests that rather than improving self-esteem, tracking actually depresses it. Controlling for social class and ability, students who are placed in lower tracks are perceived as intellectually inferior, have lower aspirations for the future, feel more alienated, are more likely to misbehave in school and to engage in delinquent activities outside of school (Oakes, 1985). Not surprisingly, they are more likely to become school dropouts. Vanfossen et al. (1982) examined changes in self-esteem, school satisfaction, and educational aspirations of students from the point at which they chose a track (sophomore year) until their senior year. Findings showed that self-esteem and school satisfaction of academic seniors increased from sophomore to senior year, stayed the same for general students, and decreased for vocational students. The change in the difference between the educational aspirations of the academic and general track was one quarter of a standard deviation by the students' senior year. This same difference between the academic and vocational tracks was one half of a standard deviation.

Peer Influences. Outside of actual academic material, there are other important ways in which the educational (as opposed to academic) experiences of upper and lower tracked students differ. Several researchers have noted that placement in an academic track exposes students to peers who are highly motivated themselves and whose educational objectives match those of the school (Alexander & McDill, 1976;

Oakes, 1985). At this level, it is more likely that a student will come into contact and make friends with peers who have plans to go to college, have high ability, and come from advantaged financial backgrounds. In contrast, students in the lower tracks are more likely to be exposed to fewer students who are motivated, interested, and enthusiastic. Their peers are more likely to have lower academic aspirations.

Classroom Atmosphere. Clearly, classroom atmosphere is apt to be differentially influenced as a function of student composition. Indeed, Vanfossen et al. (1982) found that, relative to general and vocational track students, academic track students reported experiencing fewer disciplinary problems in their classrooms, rated their classes as more serious and more oriented towards learning, and reported spending more time on academic tasks. These students also had higher perceptions of teacher treatment than students in the general or vocational tracks. Similarly, Oakes (1985) reported that, relative to low tracked students, high tracked students perceived that more time was devoted to learning and that their teachers were more motivated and enthusiastic, and less punitive.

It appears, then, that students who are placed in lower tracks are exposed to a qualitatively different academic and educational experience—one that is inferior to the experience of academically tracked students. Students in lower tracks are not challenged to meet rigorous standards and are therefore unprepared to better themselves academically should they wish to do so. A recent study suggests that this need not be the case, however.

Possible Alternative Outcomes

Using data from the first follow-up of the HSB study, Lee and Bryk (1988) examined the effects of tracking in public and private Catholic schools. With a sample of approximately 4,000 students, they found a much larger proportion of students in the academic track in Catholic than in public schools (43 percent vs. 23 percent). Further, relative to the public schools, student background was less strongly related to track placement in the Catholic schools. The correspondence between educational aspirations and track placement was stronger in the Catholic than the public schools. That is, 71 percent of Catholic eighth graders had plans to go to college; 72 percent were in the academic track by tenth grade. The parallel correspondence for public schoolers was 53 percent with college plans in eighth grade against 38 percent enrolled in the academic track by tenth grade.

Interestingly, the educational aspirations of Catholic students were less likely to deteriorate over the high school years than those of public school students. Also, these researchers showed that Catholic students who transferred to public schools were less likely to stay in the academic track than if they had remained in the Catholic school system. Perhaps the most compelling findings have to do with differences in the curriculum, comparing the same tracks in the Catholic and public schools. In Catholic schools, students in the general track took an additional year of math instruction and almost six months more of foreign language instruction than did general students in public schools. Catholic students in the vocational track took one year more of math than public school students in the vocational track. In Catholic schools, the difference between tracks in terms of the educational experience of students appears to be smaller than it is in public schools. Catholic schools clearly impose stronger academic standards on all students, regardless of track placement.

Conclusions

The bulk of research evidence shows that tracking in public schools favors advantaged and white students. Those who are placed in lower tracks (often poor and minority students) have little chance of upward mobility (Oakes, 1985), and experience a curriculum that is unchallenging and unsuited for later academic pursuits. Psychological effects also appear to be deleterious, with lower tracked students developing decreased satisfaction with school, lower self-esteem, and lower educational aspirations. However, lower tracking does not have to imply lower academic standards, as Lee and Bryk (1988) have shown. Educators have been unable to show that placing slower or less able students in classes with similar peers has improved their education or their academic self-concept. This failure is very unfortunate, particularly when one considers the logic behind tracking. The logic implies that, at its best, tracking could bring children of different initial levels of achievement to an equal par with one another. The facts suggest, however, that this has never been attempted and that the system is designed to separate children even further. In an atmosphere of rising concern about our nation's ability to compete in an increasingly technological and competitive world, educators would do a greater service to all children by imposing, not lowering standards for academic excellence.

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THE ROLE OF CHILD, PARENT, AND TEACHER BELIEFS IN MOTIVATIONAL FACTORS IN CHILDREN'S LEARNING

Janine Bempechat
Harvard University

INTRODUCTION

The education of poor and minority children continues to be of great concern to educators and architects of public policy. Much of this concern is focused on developing special academic programs to improve the achievement of economically disadvantaged children. Such is the task of compensatory education. If we can arm children early with the appropriate skills, we may be able to stem the tide of school failure and prevent their dropping out.

With their emphasis on increasing academic achievement, researchers in compensatory education have paid relatively little attention to motivational factors in children's learning. In theory, children can arrive at school possessing all the cognitive skills they need to succeed. They will not reach their potential, however, if they are prone to maladaptive motivational tendencies, such as a lack of persistence, a preference for easy over challenging tasks, a propensity to give up or fall apart in the face of difficulty, low expectations for success, and a tendency to attribute academic failure to lack of ability.

Indeed, the evidence suggests that children's performance in school is predicted more reliably from motivational factors than from actual measures of intelligence (Crandall, 1969; Dweck & Licht, 1980; Weiner, 1972). For example, there are very bright children who are vulnerable to learned helplessness and who consistently avoid challenge. And there are children who, while not as "bright," thrive on challenge and may attain levels of proficiency not suggested by their intelligence or achievement scores. Why this might happen is discussed below.

THE ROLE OF CHILDREN'S BELIEFS

The work of Dweck (Dweck & Bempechat, 1983) and Nicholls (Jagacinski & Nicholls, 1984; Nicholls, 1978; 1983; 1984a; 1984b) suggests that children's beliefs about the nature of intelligence may influence their achievement cognitions and behaviors. These researchers and their colleagues have respectively categorized children's beliefs about ability as either fixed and static (Entity or Differentiated) or as malleable and flexible (Incremental or Undifferentiated). They have shown that children who think that intelligence is fixed tend to choose tasks which display their ability ("performance" goals/ego involvement) rather than challenge it ("learning"

goals/ task involvement) (Bandura & Dweck, 1986). These children tend to be vulnerable to learned helplessness, particularly when their confidence is low (Elliott & Dweck, 1986), and also tend to define intelligence in others in terms of static qualities: "She's smart because she always gets As" (Bempechat & Dweck, 1988).

In contrast, children who view intelligence as a fluid, changeable quality tend more to undertake challenging tasks, even at the risk of failure (Bandura & Dweck, 1986). They also tend to exhibit more mastery oriented behavior regardless of their confidence level, and to be resilient in the face of failure (Elliott & Dweck, 1986). In addition, they tend to define intelligence in others on the basis of actions: "He's smart because he always does his homework" (Bempechat & Dweck, 1988) rather than of static qualities. These differences in achievement orientation are independent of actual skill or measured intelligence.

A recent study found that children's beliefs about intelligence can be successfully manipulated by verbal instructions (Bempechat, Jancourt, & London, 1988). Children who were told that the acquisition of a "new ability" depended on effort displayed more adaptive achievement cognitions than did those who were told that the "new ability" was something with which some people were endowed. This implies that children can be oriented towards a more flexible view of ability, which may be more adaptive in the long-run.

We do know that adaptive achievement cognitions can be influenced by classroom environment. Ames and Ames have shown that competitive learning environments inhibit effort-related cognitions and make salient self-perceptions of ability (Ames, Ames, & Felker, 1977; Ames & Felker, 1979). Individualistic learning environments tend to foster effort attributions and adaptive strategies, such as self-monitoring and self-instructions (Ames, 1984; Ames & Ames, 1981).[1]

Moreover, children's individual differences in adaptive achievement cognitions and behaviors can be manipulated by parents, peers, teachers. Their roles are discussed below.

The Role of Parent Beliefs

The burgeoning research on parent beliefs is converging to show that parents' own beliefs, attributions, and attitudes serve to guide their behavior with their

[1] See discussion in preceding section.

children (Eccles, 1983; Entwisle, Alexander, Pallas, & Cadigan, 1987; Entwisle & Hayduk, 1982; McGillicuddy-DeLisi, 1985; Marjoribanks, 1979; Miller, 1986, 1988; Phillips, 1987; Sigel, 1985; Thomas, in Phillips, 1987). And, parents' beliefs appear to have a causal influence on their children's development of achievement attitudes and behaviors.

Differential Expectations for Sons and Daughters. Nowhere is this more striking than in the research on sex differences in mathematics achievement. Recent research has shown that parents' beliefs have a profound influence on children's self-appraisals of ability, attributions for performance, and attitudes towards math. In reviewing this evidence, it is important to bear in mind that parents' beliefs do not necessarily have to be explicit. Often subtle aspects of beliefs and behavior—which parents may be unaware of—can be very influential.

In a recent study, Hess and his colleagues (Holloway & Hess, 1985; Dunton, McDevitt, & Hess, 1988) found that, even though there were no significant sex differences on several assessments of performance, mothers expressed different attributions for girls' and boys' achievement. In explaining high achievement, mothers of boys placed more emphasis on ability than effort, while mothers of girls placed more emphasis on effort than ability. In explaining low achievement, mothers of boys stressed lack of effort over lack of ability, but expressed the opposite attribution for their girls.

It is not surprising, then, to learn that, compared to boys, girls have lower self-concept of math ability and believe that math is harder and of less general value (Eccles, 1983; Parsons, Adler, & Kaczala, 1982). Moreover, they are less likely to attribute success to ability and more likely to attribute it to stable effort. They are also more likely to attribute failure to lack of ability. These researchers have shown that children's self-perceptions of math ability appear to be influenced more by their parents' appraisals than by their own record of achievement.

In a longitudinal study that followed children from pre-kindergarten through tenth grade, Stevenson and Newman (1986) found that sex differences in self-ratings of general and specific cognitive abilities emerged only in tenth grade. At this point, boys had more positive attitudes towards math than girls. In addition, boys had higher ratings than girls on expectancies for success in a career that required math ability, the utility of math for daily life, and ease of math courses.

These sex differences in attitudes were not accounted for by performance differences. For boys, their math performance in third and fifth grades were the only variables related to their later attitudes. In contrast, girls' later attitudes were accounted for by previous performance and by mother and teacher ratings of their cognitive skills. Thus, mothers' perceptions appear to have an important influence on their children's achievement-related attitudes, especially those of their girls.

Parent Influence on the Achievement of Asian Children. The beliefs of Asian parents regarding the malleability of ability appear to have an important effect on their children's performance in school (Ginsburg, Bempechat, & Chung, 1989). Academic achievement in Asian cultures, therefore, provides an interesting context in which to examine some principals of motivation theory.

In our own work on the school achievement of Asian American children, we are examining the degree to which immigrant status and a common Confucian ethic may influence the socialization practices of Asian American parents, such that they foster motivational and attitudinal tendencies that contribute to high achievement (Bempechat, Mordkowitz, Wu, Morison, & Ginsburg, 1989). In conceptualizing the research issues, we are relying heavily on the attribution theory of Bernard Weiner. For example, Weiner and his colleagues (Weiner, 1972; 1980; 1984) have shown that attributions to internal, controllable factors, such as effort, are very adaptive because they propel individuals towards positive action (i.e., studying). The Asian cultural adherence to the value of personal effort in achievement, coupled with the minimal value placed on innate ability, may serve to foster a sense of control and personal responsibility towards school learning.

This sense of control/responsibility over one's learning is associated with mastery-oriented behavior. That is, children who take responsibility for their own academic successes and failures are more likely to confront difficulty or challenge with renewed resolve, and to engage in adaptive methods of problem solution (i.e., self-monitoring, self-instruction). In contrast, children who blame other people or external events for their school performance are more likely to succumb to learned helplessness in the face of difficulty, and to engage in ineffectual problem solving strategies (Diener & Dweck, 1978; 1980).

In addition to the value that parents place on effort, some research suggests that parents' reactions to failure may play an equally important role in maintaining high effort. According to Weiner's work on attribution-affect linkages (Weiner, Graham,

Stern, & Lawson, 1982), the affective reactions of others are likely to be important determinants of self-ascriptions for success and failure. Interestingly, in a comparative study of parents' beliefs about children's performance in mathematics, Hess, Chih-Mei, & McDevitt (1987) found that while Chinese American and Caucasian parents tried to determine the reasons for their children's failure, mothers in the People's Republic of China punished their children and were angry with them when they failed. This finding is interesting in light of Weiner, Graham, Stern, and Lawson's (1982) study. They showed that, in a hypothetical scenario, when teachers react to a student's failure with anger, children infer that the cause of this failure is lack of effort. It is possible that the anger of Chinese mothers in response to their children's failure serves to communicate to the children that their mothers fully expect them to try harder, and in so doing, they will perform better. The effect on the children could be to foster renewed high effort.

With respect to parental expectancies, the literature suggests that Asian parents expect more of their children than American parents, and hold them up to higher standards. Recent research has shown that, despite the higher achievement of their children, Asian parents are less satisfied with their children's performance than American parents, adhere to higher standards in judging their academic record, and have higher expectations for their performance (Stevenson, Lee, & Stigler, 1986; Uttal, Chen, & Diaz-Perez, 1987). (See Ginsburg, et al., 1989, for a more detailed treatment of this issue.) It is possible that the relatively high expectancies of Asian parents, stemming as they do from a belief in the malleability of intelligence, may communicate an implicit assumption that there are no limits on intellectual growth. As current research is showing, this belief appears to be a strong motivator in children's learning.

The Role of Peer Influence on the Achievement of Minorities

An emerging body of literature reveals that, among black and Hispanic teenagers, peer pressure to perform badly in school may be more influential than parental pressure to do well. Fordham and Ogbu (1986) suggest that black students do poorly in school because they experience a great deal of ambivalence and affective dissonance regarding academic effort and success. According to these authors, because whites historically refused to acknowledge black intellectual ability, blacks began to doubt their abilities and to view achievement as the province of whites only. They then began to discourage peers from academic success, viewing this behavior as "acting white." Fordham and Ogbu argue that blacks have developed an "oppositional frame of reference" that includes strategies to protect

their ethnic identity. In interviews with black high school students in a predominantly black school, they found that underachievers knowingly undermined their own achievement by not studying and cutting classes. High achievers were committed to doing well in school, but reported that they had developed strategies for coping with academic success that included acting out, being the class clown, keeping their efforts a secret, and generally maintaining a low profile. Similar findings of an "anti-achievement ethic" have been reported for Hispanics (Fordham, 1988; Matute-Bianchi, 1986).

Fordham recently argued that some blacks, "in an effort to minimize the effects of race on their aspirations, have begun to take on attitudes, behaviors and characteristics not attributable to Blacks; they have adopted personae that indicate lack of identification with the Black community." (1988, p.54). She suggests that racelessness may be an outcome of high achievement for some blacks.

These findings raise cause for concern because they suggest that there are important community forces that mitigate against the efforts of black and Hispanic students to do well in school. Therefore, intervention must be carried out with peers as well as parents. Clearly, more research efforts are needed to understand the dynamics of peer pressure against academic achievement.

The Role of Teachers' Beliefs

In addition to parents, teachers are very influential in fostering adaptive or maladaptive achievement cognitions. Children as young as seven years of age are able to interpret their teachers' emotional reactions to their poor academic performance (Weiner et al., 1982). They interpret expressions of sympathy or pity as signs that the teacher believes they have low ability. A teacher's anger is interpreted as a belief that they could do better with more effort. Clearly, these latter reactions are more likely to foster renewed effort.

Holloway and Hess (1885) demonstrated that teachers hold the same differential attributions as mothers for the math performance of boys and girls. That is, they attribute boys' success to ability and girls' success to effort; they attribute boys' failure to lack of effort and girls' failure to lack of ability. It is likely, given Weiner's research, that children are able to pick up on these differential patterns of explanation for success and failure.

Of course, research on teacher expectancies has shown that high expectancies do appear to have a positive influence on students' performance (Rosenthal, 1985; Rosenthal & Jacobson, 1968). While some controversy over this research still exists, it is important to bear in mind that, in Rosenthal's original research, he led teachers to believe that some children would "bloom" intellectually over the coming year. The implicit message was that intelligence develops and is malleable (see Dweck, 1989, for a more detailed discussion of this issue). As we know, belief in the malleability of intelligence underlies Asian education. This belief probably accounts for the fact that, relative to American mothers and children, Japanese and Chinese mothers and children place much more emphasis on effort in school performance (Stevenson, et al., 1986).

Conclusions

The evidence suggests that if children are taught from an early age that their academic future lies essentially in their own hands, passivity in the face of school difficulty may simply not be perceived as a viable option for them. A strong belief in the value of effort may indeed foster a strong sense of discipline that might help children persevere during difficult and challenging moments in their education.

With this in mind, the question before researchers and educators concerned with the education of poor and minority children should be two-fold: (1) How can parents and teachers transmit to their children the cognitive skills necessary to succeed in school; and (2) How can parents and teachers transmit adaptive motivational tendencies that can maximize their children's cognitive skills? A research agenda that approaches both issues simultaneously can be very successful in identifying a set of child-rearing practices that enhance both cognitive skills and adaptive achievement cognitions and behavior. With such practices in hand, we can ultimately develop intervention strategies for parents and teachers that will train them not only to foster the development of children's cognitive skills, but teach children how to make the most of these skills throughout their school years.

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MIDDLE SCHOOL EDUCATION AS THE CRITICAL LINK IN DROPOUT PREVENTION

Amy Stuart Wells
Teachers College

INTRODUCTION

Student decisions to drop out of high school are often the end result of a long series of negative school experiences—academic failure, grade retention, or frequent suspensions—that begin before the ninth grade. Dropout prevention strategies, therefore, must be targeted toward the middle-school grades, when the stresses of schooling related to academic achievement, behavior, and membership pose grave danger to already disadvantaged students who have the fewest resources to cope with new hurdles (Massachusetts Advocacy Center, 1988).

An emerging body of research addresses the issue of what middle schools can do to help young adolescents develop a more positive orientation toward themselves and their education.

SCHOOL STRUCTURE

Early adolescence is a time of rapid physical development that is often accompanied by emotional turmoil as young teens struggle to develop a sense of who they are and where they fit in. Yet, a volatile mismatch exists between the organization and curriculum of middle grade schools and the needs of young adolescents, particularly those students most at-risk. Instead of providing more individualized attention and encouragement, most middle schools offer large, impersonal environments where students can easily become lost.

Much of the research on improving middle and junior high schools is aimed at how to make these schools look less like large, impersonal high schools, and more like caring, nurturing elementary schools while offering students a challenging, subject-specific curriculum. The most often heard recommendation is that middle schools should be broken down into "houses" or little schools within a school.

An Impersonal Experience in an Alienating Environment. Part of the problem in trying to restructure middle grade education is that currently there are several different sizes and shapes of intermediate schools. In their studies of what middle schools and junior highs look like, researchers at the Center for Research on Elementary and Middle Schools (CREMS) found as many as 30 different grade configurations for schools that enroll young adolescents. The two most popular

types of schools for early adolescents are the 6-8 grade middle schools, which are now found in about one-third of all school districts, and the 7-9 grade junior high schools.

And while the CREMS studies show that the grades 6-8 middle schools tend to be smaller and less departmentalized than the grades 7-9 junior highs, they also found that close to 50 percent of all seventh graders change classrooms at least four times during the school day (1988).

Therefore, at the point in their lives when young adolescents are feeling most vulnerable, they are often forced to leave the self-contained classrooms of elementary school where they spent most of their day with one teacher and a small group of peers. They move on to large, often impersonal middle schools (grades 6-8) or junior high schools (grades 7-9) where they go to as many as seven different classes taught by seven different teachers and attended by seven different sets of students each day (Massachusetts Advocacy Center, 1988).

While this more fragmented middle school structure allows teachers in the school to be more specialized and expert in the subjects they teach, it also fosters weaker teacher-student relationships. As teachers try to deal with 30 or so different students each hour of the day, they have little time to address the individual needs of each of them. They also have little time to personally contact parents or to discuss student cases with other teachers in the school. CREMS found that smaller schools with less departmentalization allowed teachers to form closer relationships with their students, proving that teacher responsibilities for large numbers of students reduce their ability to attend to the special needs of individual students. Yet, in examining achievement tests scores, it was found that sixth graders in departmentalized situations were achieving at a significantly higher level (1987).

A School-within-a School Alternative. Somehow middle schools, especially those that enroll students who are at-risk of dropping out, must address both issues—positive teacher-student relationships and high achievement. Schools can achieve both goals by developing intermediate staffing practices, including semi-departmentalized and team teaching arrangements. For instance, one teacher may offer instruction in more than one related subject (such as science and mathematics), and share a fixed class of students with other teachers. Schools can also can assign specific adult staff members to serve as "advocates and mentors" to individual students (CREMS, 1987).

This more personalized setting would allow teachers to keep closer tabs on students who are frequently truant, and to work with students and their parents to prevent truancy. The team teaching approach would allow teachers to specialize and develop their expertise while still having time to network with other teachers to help students who are having difficulties.

Grade Retention Policy

As much of the literature on dropout prevention has demonstrated, students who are held back one or more years in their schooling are much more likely to leave school before graduating. Being retained one grade increases a student's chances of dropping out by 40-50 percent; those retained two grades have a 90 percent greater chance of dropping out (Massachusetts Advocacy Center, 1988).

While many students are held back in the early years of elementary school, non-promotion is also quite common in the middle grades when teachers who are more specialized in their training are looking for more specific knowledge and academic achievement from their students. In the Boston school system, for example, nearly 12 percent of all sixth graders, and 19 percent of all seventh graders, were held back in 1987, compared to two percent of all fifth graders (Massachusetts Advocacy Center, 1988).

Yet, the research literature on grade retention shows that retaining students in the middle school grades does not improve student achievement (Massachusetts Advocacy Center, 1986). High retention rates may signal that middle schools are not serving students properly by giving them enough personal attention and helping them compensate for any academic deficiencies they brought with them from elementary school.

Also, young adolescents are more likely to feel embarrassed and stigmatized than elementary students when they are held back. This distresses and shames students at a time in their lives when they are already highly stressed.

School Organization

Tracking. Although the practice of grouping students according to their ability usually begins in the elementary schools, it becomes formalized in the middle school grades as the various academic levels become more fixed and obvious. Too often those students with the characteristics most often associated with potential

dropouts—minority group students, those from low-income or single parent families, those with limited English proficiency, those with behavioral problems—end up in the lowest tracks. Young adolescents placed in lower tracks during the middle grades are locked into dull, repetitive instructional programs leading at best to minimum competencies.

In addition, because of the more fragmented structure of the middle school, students who have difficulty in just one subject area often end up in the lower track for all of their classes. This prevents students from becoming high achievers in areas where they excelled in elementary school.

Tracking young adolescents also restricts social interaction between students with different interests and abilities. Because minority students are consistently found in lower level classes at a much higher rate than their white peers, tracking also serves to segregate students within a school, reinforcing racial prejudice and fostering a feeling among minority students that school is a place where only white students are high achievers.

The Cooperative Learning Alternative. One possible alternative to tracking in the middle grades is cooperative learning in which students of all ability levels work together in groups and receive group rewards as well as individual grades. Cooperative learning is especially appealing for middle grade students because it allows them to develop their interpersonal communication skills at a period in their lives when they are highly focused on and sensitive to social interactions.

As Strahan and Strahan point out in their paper on revitalizing remediation in the middle grades, in some situations, students learn thinking strategies more easily from each other than they do from the teacher. All students need to interact with other students. They are responsive to each other's ideas, and groups often solve problems more efficiently than students working independently (1988).

Special Curriculum. Fetro argues that during the middle grade years, health educators could play a major role in helping young adolescents cope with their feelings of social isolation and powerlessness. Building students' self-esteem by helping them develop better communication skills and methods of dealing with peer pressure is an important first step for health educators to take (1985).

Health educators should also cover everything from proper nutrition to the effects of alcohol on the body. Given that teenage pregnancy is one of the most frequently cited reasons why girls drop out of school, and that the average age at which boys and girls become sexually active continues to decline, health educators in the middle grades should assure that all students complete the sex education curriculum.

In addition to stressing health education in the middle grades, Natriello, Pallas, McDill, McPartland, and Royster (1988) state that providing students with career education at an early age increases the salience of the school curriculum, and shows students how the skills they are learning today are connected to what they will be doing in 10 or 20 years.

Teachers as the Crucial Element

Much of the research that looks at reasons why students drop out of school points to negative teacher-student interactions. Likewise, students who stay in school often cite a "good teacher" as one of the most positive elements of their school experience.

Teacher Attitudes. In their study of at-risk middle school students in Boston, researchers at the Massachusetts Advocacy Center found that students' "favorite teachers" were not only nice, but also had high expectations for everyone, and were able to explain the work. Students who do not have teachers such as these often go too long without a successful school experience, and eventually conclude that no one really cares (1986).

Another study of middle schools and students at-risk of dropping out (Bhaerman & Kapp, 1986) found that potential dropouts tend to perceive their teachers as caring very little about their academic success, and see the school as condemning their academic failures. Students are less likely to leave school when they work with teachers who are flexible, positive, creative, and person-centered rather than rule-oriented. The researchers also found that while adolescents tend to pull away from adults in their attempts to become more independent, they paradoxically also have a strong need to bond with adults.

Teacher Training for Middle Schools. Despite the major role that middle school teachers can play in the lives of their students, the Carnegie Council on Adolescent Development (1989) bemoans the fact that many teachers in the middle grades lack

adequate training related to early adolescence. The Council states that middle schools end up with teachers who were trained to teach either elementary or high school students and who view their jobs in the middle schools as "the way station" before going on to assignments that they prefer (p. 58).

Middle grade teachers need to view their jobs working with adolescents as a legitimate, specialized profession. They should be specially trained for teaching middle grade students by taking classes in adolescent development while they are learning a subject-area expertise. This will allow them to work on teams of middle school teachers while helping to counsel and mentor their students through their middle school years.

Conclusion

Helping young adolescents to feel better about themselves and their school experiences is the key to dropout prevention in the middle grades. For those students who fit the description of the potential dropout, a supportive and nurturing middle school climate could make all the difference in the world.

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